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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/737,596 | 12/18/2000 | Neil McLoughlin | LIT V-884-DIV | 1690 |

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EXAMINER

EASTHOM, KARL D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 06/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/737,596

Applicant(s)

McLoughlin

Examiner

Karl Easthom

Art Unit

2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 20, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36 and 38-51 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 36 and 38-47 is/are allowed.
- 6) ☒ Claim(s) 48-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

Art Unit: 2832

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(f) he did not himself invent the subject matter sought to be patented.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 48 and 51 is rejected under 35 U.S.C. 102(a, b, e or f) as being anticipated by the admitted prior art of Fig. 1 and page 2 (APA). Applicant admits at page 2 that a varistor having a temporary plating resist except at its ends can be formed by dipping into a nickel plating solution at page 2 to form a nickel plating only on the ends – this meets claims 48 and 51, where Fig. 1 is prior art having the terminals on ends.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Chan '443 or Ravindranathan, or Cobb. The APA noted above discloses the claimed invention except the thickness and tin. Chan '443 disclose a nickel cap about 1 um and a tin

Art Unit: 2832

cap, at col. 9, as standard terminations for varistors to create good terminations, where the thickness and barriers prevent leaching for soldering. Cobb discloses nickel or tin as barriers to solder leaching at col. 2. Ravindranathan discloses same at col. 1. It would have been obvious in view of the noted art to employ the standard thickness and barriers for circuit board soldering of the APA device in order to prevent leaching and/or create good connections.

5. Claims 36-47 are allowed.

6. The following is a statement of reasons for the indication of allowable subject matter: Primarily, the claimed product by process step of “the body surface being untreated” and “bringing only the terminal regions into contact with a nickel plating solution” is not disclosed or suggested in the combination as claimed. The process step results in a distinct product from the product created by the prior art method, see Chan ‘443 at col. 1, lines 40-60, and applicant’s admission of prior art at page 2, whereby the whole semiconductor body is immersed in the solution. That is, the terminal regions will have a distinct pattern formed by bringing only the terminal regions into contact, (see original claim 36, claiming “naturally formed edge”) that is distinct from the pattern formed on the end when the whole body is immersed as in the prior art method. This pattern will also be distinct from the sputtered terminations of Chan ‘443.

Similar remarks apply to claim 39. That is, the claim requires the ends only dipped into the solution – and not the untreated body portion. As stated, though this is a process limitation, a distinct product is created.

7. It is noted that Momoki discloses dipping the ends only into a paste, col. 3, lines 30-50. However, Momoki discloses that dipping ends in paste without modifying the corners creates stress causing cracks in the device, and uneven terminations leading to mounting problems, see

Art Unit: 2832

col. 2, lines 37-47. The examiner considered applying Momoki as a modifying reference to the admitted prior art and the prior art of Chan '443, but Chan '443 teaches away from employing the nickel plating immersion method in general, and employs sputtering as a solution to the nickel plating immersion problems (cost, "creepage" due to the conductivity of the untreated device, and etching of the ceramic due to the acid of the plating solution). That is, a solution to the problem was contemplated in Chan '443, but dipping ends only into a nickel plating solution was not suggested there - sputtering was the solution. Similarly, Ravindranathan teaches a complicated masking solution to solve the problem of "creepage". Hence, as applicant points out in his specification, applicant's invention overcomes a long felt need for a simple solution in nickel plating, weighing against any suggestion for the combination contemplated. Finally, the Examiner is cognizant that applicant has a patent - US 6232144, on the process of dipping only the ends in a nickel plating solution - see claim 1 thereat.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl D Easthom whose telephone number is 703 308-3306. The examiner can normally be reached on M-Th, 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 703 308-1976. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308-7722 for regular communications and 703 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0956.

KARL D. EASTHOM
PRIMARY EXAMINER

